

Appendix E

DfE/EMS Tool Kit

This tool kit contains blank copies of all the worksheets presented in the manual, for your use. The worksheets are identified by the same numbers used in the manual. For example, Worksheet 6-1 would be the first worksheet found in Module 6.

Worksheet 2-1: Costs and Benefits of Developing and Implementing a DfE/EMS	
Costs	Benefits

Worksheet 4-1: Identification of Stakeholders			
Your Stakeholders	What you want to tell them:	What you want them to tell you:	How to communicate with/tell them:
Date Completed: _____		Contact Person: _____	

Note: This worksheet is the same as worksheet A-1

Worksheet 4-2: Communication Work Plan					
Target Audience	What to Communicate	Mode of Communication	When	Budget	Who is Responsible
Date Completed: _____			Contact Person: _____		

Note: this worksheet is the same as Worksheet B-2.

Worksheet 4-3: Documentation							
List Existing Documents	Determine Format: Who/ Date Completed	Develop Prototype (Content): Who/ Date Completed	Assign Writing: Who/ Date	Review Writing/ Compare to Prototype Who/ Date	Added to Document List/ Date	Who has access	Where Located
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
List Documents to be Created							
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
Date Completed: _____ Contact Person: _____							

Note: the is worksheet is the same as worksheet C-1.

Worksheet 4-4: Persons Responsible for DfE/EMS Development			
Roles	Individual Responsible	% of Time Designated	Budget
Appointing a “management representative” with responsibility for implementing the EMS (in a small business, this person could be the owner).			
Identifying and determining significance of environmental aspects.			
Identifying and determining applicability of legal and other requirements.			
Competency-based training.			
Operational controls.			
Emergency preparedness and response.			
Monitoring and measurement of “key characteristics” of operations and activities that can have significant environmental impacts (i.e., the “significant environmental aspects.”).			
Periodic evaluations of environmental compliance.			
Handling and investigating non-conformance with the EMS.			
Records management.			
Internal EMS audits.			

Worksheet 4-5: DfE/EMS Development Schedule and Resources			
Module	Participants	Budget	Target Completion
Planning the Process: Decision Points, Leadership & Participants, Schedule & Plan			
Intermediate steps: (Fill in)			
Understanding What Your Company Does and Its Possible Impacts: Identifying environmental aspects			
Intermediate steps:			
Determining Significant Aspects: Prioritizing and Setting Objectives			
Intermediate steps:			
Making Improvements: Evaluating Alternatives and Setting Targets			
Setting Standards: Developing Operational Controls			
Intermediate steps:			
Intermediate steps:			
Setting Up Environmental Management Projects; Measuring and Achieving Success			
Intermediate steps:			
Establishing Continuing Improvement: Your EMS Program, Audits, and Management Review			
Intermediate steps:			
Date Completed: _____ Contact Person: _____			

Worksheet: 5-1		Regulations
Agencies that can help	Regulations that apply to my business	Business Activities affected

Date Completed: _____ Contact Person: _____

Worksheet 5-2: Identifying environmental aspects		
Input/Output	Environmental Aspect	Environmental Impact
Office Operations		
Manufacturing Operations		

Worksheet 5-3: Health, Safety and Environmental Concerns Information										
Work Activity/Chemical	Information Sources	carcinogen? ^a	OSHA Exposure limit? ^a	VOC? ^a	Human Health Effects			Effects on wildlife ^c	Other environmental effects ^c	Safety Concerns
					Inhalation effects ^b	Dermal effects? ^b	Ingestion effects? ^b			

a Information for these columns can usually be found on the MSDS

b Partial information for these columns might come from the MSDS, but other resources may be needed

c MSDSs usually do not include environmental effects

Worksheet 6-1 Exposure Scoring Summary			
Pathway	Occupational	Nearby population	Environment (e.g., aquatic organisms)
inhaling			
skin contact			
ingesting			
TOTAL			
Note: Refer to consolidated scoring, Figure 8, which shows how to combine your judgement about frequency and severity into one score for exposure.			

Complete for each chemical in each process step.

Worksheet 6-2: Criteria to Determine Significant Aspects										
Criteria Aspect	Regulatory Concerns	Pollution	Risk							Natural Resource Use
			Effects of Chemicals and Materials		Workers (Exposure)	Community (Exposure)	Environment (Exposure)	Noise	Safety	
			Humans	Environ- ment						

Worksheet 6-3: Criteria to Select Environmental Projects				
Criteria				
Aspect	Time Frame	Cost	Technical Feasibility	Total Feasibility

Worksheet 6-4: Criteria to Determine Benefits						
Criteria	Human Health	Ecology	Cost Savings	Community Relations	Morale	Total Benefits
Aspect						

Worksheet 6-5: Overall Criteria Scoring Summary					
Process Step Aspect I	Criteria	Aspect Total	Feasibility Total	Benefits Total	Significant Y/N
Toner (In)					
Used Toner					
Chemicals					
Chemical Waste					

Worksheet 7-1: Significant Aspect Objectives		
Significant Aspect	Objective	Related Environmental Policy

Worksheet 7-2

Procedures for Significant Aspects

[illegible]

Worksheet 7-3: Operational Control Responsibilities			
Significant Aspect	Procedures	Responsible for maintaining controls	Responsible for review of controls

Worksheet 7-4: Training Plan for Operational Controls								
Environmental Aspect	Procedures	Responsible Person	Training Needs	What Vehicle	When/ Length	Budget	Completion Date	Person Responsible for training

Worksheet 7-5: Environmental Performance Measurement Indicators						
Aspect	Objective	Indicator	Date Checked	Who Checked	Result	Corrective Action

Worksheet 7-6: Corrective Action Notice	
Issue Date:	Solution Due Date:
Requested by: Issued to:	
Problem Statement:	
Most Likely Causes:	
Suggested Solutions:	
Action Taken:	
Measured Results:	
Corrective Action Closed by:	Date:
<i>Contact for Notice:</i>	

Note: This worksheet is the same as worksheet 9-1.

Worksheet 7-7: Measurement and Corrective Action Tracking Log		
Area and Step Measured:		Date:
Person Responsible	Means of Measurement	Results
Person Responsible	Problems Identified:	Solution Due:
Person Responsible	Solutions Identified:	Action Taken:
Person Responsible	Effectiveness Verified:	Date:
<i>Contact person for log:</i>		

Note: This worksheet is the same as worksheet 9-2.

Worksheet 7-8: Environmental Review of New Processes and Activities

Area of Company	New Process, Product, or Activity	Environmental Review by:	Environmental Effects:	Pollution Prevention Opportunities
	Manager/Date	Manager/Date		

Contact for form:

Worksheet 8-1: Functions and Alternatives							
Aspect	Function	Alternative Products	Alternative Technologies	Alternative Work Practices	Recycling/ Reuse	Treatment	Disposal

Date Completed: _____ Contact Person: _____

Worksheet 8-2: Alternative Products Environmental Effects Comparison					
Chemical Product	Known Effects¹	Management of Effects²	Cost of Mgmt.³	Resource use	Effects Score
Chemical Product A (Baseline) Chemical 1 (list main chemicals in product)					
Product B					
Product C					
Product D					

Notes:

¹ Return to the “Environmental Concerns Worksheet” in Module 5 for the “known effects.”

² List protection required for each effect.

³ Identify cost items.

Worksheet 8-3: Performance Comparison of Alternatives				
	how well does it work	how long does it take	how easy is it to use	total
Product A				
Product B				
Product C				
Product D				

Worksheet 8-4: Regulatory Comparison of Alternatives				
	Regulations Required (list)	Controls Required (list)	Cost of Regulations	Total
Product A				
Product B				
Product C				
Product D				

Worksheet 8-5: Cost Comparison of Alternatives						
	raw material	labor	disposal	total cost	savings ¹	net cost
Product A						
Product B						
Product C						
Product D						

¹Savings might include reduced product consumed, reduced controls to manage, ability to reuse product, etc.

Worksheet 8-6: Alternative Products Evaluation Worksheet					
Chemical Product	Performance	Regulations	Cost	Effects¹ Score	Overall Score²
Chemical Product A (current baseline)					
Product B					
Product C					
Product D					
Date Completed: _____ Contact Person: _____					

¹ Take score from Environmental Effects Comparison Table above (last column).

² Score on a scale of low to high to reflect the desirability of each product. This is a judgment call.

Note: For more information on the methodology for comparing alternatives, refer to both the DfE/EMS Website and the Cleaner Technologies Substitutes Assessment, A Methodology Resource Guide, DfE, U.S. EPA 744-R 95-002, Dec. 1996.

This worksheet corresponds to Figure 13 in Module 9.

Environmental Management Plan:	Date _____
Environmental Objective 1:	
Target:	
<u>Action Plan</u>	
Responsibility:	
Budget:	
Expected Savings:	
Completion date:	
Review:	
Performance Measurement:	
Environmental Objective 2:	
Target:	
<u>Action Plan</u>	
Responsibility:	
Budget:	
Expected Savings:	
Completion date:	
Review:	
Performance Measurement:	
Environmental Objective 3:	
Target:	
<u>Action Plan</u>	
Responsibility:	
Budget:	
Expected Savings:	
Completion date:	
Review:	
Performance Measurement:	
<i>Contact Person for Chart:</i>	

Worksheet: 9-1		Corrective Action Notice	
Issue Date:		Solution Due Date:	
Requested by:			
Issued to:			
Problem Statement:			
Most Likely Causes:			
Suggested Solutions:			
Action Taken:			
Measured Results:			
Corrective Action Closed by:		Date:	
<i>Contact for Notice:</i>			

Note: this worksheet is the same as worksheet 7-6.

Worksheet 9-2: Measurement and Corrective Action Tracking Log		
Area and Step Measured:		Date:
Person Responsible	Means of Measurement	Results
Person Responsible	Problems Identified:	Solution Due:
Person Responsible	Solutions Identified:	Action Taken:
Person Responsible	Effectiveness Verified:	Date:
<i>Contact person for log:</i>		

Note: this worksheet is the same as worksheet 7-7.

Worksheet 10-1: EMS Program Measurement Criteria				
Company Name _____				
Measurement Elements Program Areas	Objectives of Program Area	Activity Measures	Results Indicators	Review Period
Communication Plan				
Stakeholders Input				
Environmental or DfE/EMS Training				
Review of Aspects				
Operational Controls				
Environmental Review of New Processes and Activities				
Setting Objectives & Targets				
Environmental Management Project 1				
Environmental Management Project 2				
Documentation				
Regulatory Compliance				
Pollution Prevention				
Other				
<i>Contact person for form:</i>				

Worksheet 10-2: Audit Tracking Form						
Audit Elements Audit Areas	Objectives of Audit Area	Criteria for Audit	Person Responsible for Audit	Review Period	Date of Review	Results: Successes, Failures and Corrective Action
Communication Plan						
Stakeholders Input						
Environmental or EMS Training						
Review of Aspects						
Setting Objectives & Targets						
Environmental Management Project 1						
Environmental Management Project 2						
Documentation						
Regulatory Compliance						
Pollution Prevention						
Environmental Review of New Processes and Activities						
Other						
<i>Contact person for form:</i>						

Worksheet A-1: Identification of Stakeholders			
Your Stakeholders	What you want to tell them:	What you want them to tell you:	How to communicate with/tell them:
Date Completed: _____		Contact Person: _____	

Note: This worksheet is the same as worksheet 4-1

Worksheet A-2: Stakeholder Communication Response Tracking

[illegible]

Tracking Person Responsible _____

Worksheet: B-1: Communication Channels			
	What	How Often/When	To Whom
	Newsletter	/	
	Bulletin Board	/	
	Information Meetings	/	
	E-mail	/	
	Pay Check Inserts	/	
	Advertising	/	
	Other:	/	

Worksheet B-2: Communication Work Plan					
Target Audience	What to Communicate	Mode of Communication	When	Budget	Who is Responsible

Date Completed: _____ Contact Person: _____

Note: this worksheet is the same as Worksheet 4-2.

Worksheet B-3: Training Plan						
Jobs Affecting Environment	Training Needs	What Vehicle	When/Length	Budget	Completion Date	Who is Responsible

Worksheet C-1: Documentation							
List Existing Documents	Determine Format: Who/ Date Completed	Develop Prototype (Content): Who/ Date Completed	Assign Writing: Who/ Date	Review Writing/ Compare to Prototype Who/ Date	Added to Document List/ Date	Who has access	Where Located
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
List Documents to be Created							
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
	/	/	/	/	/		
Date Completed: _____ Contact Person: _____							

Note: the is worksheet is the same as worksheet 4-3.

Worksheet C-2:		Document Control		
Document	Who Will Use It	Permanent Location	Periodic Review Schedule/ Who	When Can Be Destroyed
			/	
			/	
			/	
			/	
			/	

Date Completed: _____ Contact Person: _____

[illegible]

Worksheet D-2: Pollution Prevention Tracking Log

[illegible]

Contact for form: